

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF BARKLEY LAKE WATER )	
DISTRICT, (1) FOR A CERTIFICATE THAT )	
PUBLIC CONVENIENCE AND NECESSITY )	
REQUIRES THE CONSTRUCTION OF NEW PLANT )	
FACILITIES; AND (2) SEEKING APPROVAL )	CASE NO. 10046
OF THE ISSUANCE OF CERTAIN SECURITIES; )	
AND (3) FOR AN ORDER AUTHORIZING )	
ADJUSTMENT OF WATER SERVICE RATES AND )	
CHARGES )	

O R D E R

On October 5, 1987, Barkley Lake Water District ("Barkley Lake") filed an application for a certificate of public convenience and necessity to construct a \$1,199,200 waterworks improvement project, for approval of its plan of financing for this project, and for approval of adjustments to its water service rates. Project funding includes a \$1,973,000 loan from the Farmers Home Administration ("FmHA") and \$26,200 from applicants for service in the proposed project area. The loan will be for a 40-year period at an interest rate of 7 1/8 percent per annum.

The proposed construction will make water treatment plant improvements and provide service to approximately 70 additional customers. Drawings and specifications for the proposed improvements prepared by Elrod-Dunson, Inc., Consulting Engineers of Nashville, Tennessee, ("Engineer") have been approved by the Division of Water of the Natural Resources and Environmental Protection Cabinet.

On October 22-27, 1987, the Commission Staff conducted a field review of Barkley Lake's test period financial records and issued its report on January 12, 1988 containing Staff's recommendations. No comments were filed by Barkley in response to the Staff Report.

#### CONTINUITY OF ADEQUATE AND RELIABLE SERVICE

The Engineer states that reliable and adequate service can be maintained throughout the expanded system after completion of the proposed construction. In several areas of the system, however, service pressure could fall well below 30 psig, in violation of 807 KAR 5:066, Section 6(1) and accepted engineering standards.

The Commission reminds Barkley Lake of its obligation to provide adequate and reliable service to all of its customers. Barkley Lake should monitor the adequacy of the expanded water distribution system after construction. If the level of service is inadequate or declining, or the pressure to any customer is outside the requirements of 807 KAR 5:066, Section 6(1), Barkley Lake must take necessary actions to maintain the level of service in conformance with the regulations of the Commission.

#### FIRE HYDRANT INSTALLATION

Barkley Lake originally proposed to install one conventional fire hydrant as part of this construction project. This fire hydrant was not intended to be used for fire protection, but would serve as a flush valve. The installation of this fire hydrant, however, does not comply with Standard 24 of the National Fire Protection Association as adopted by 815 KAR 10:020 and the "Recommended Standards For Water Works" by the Great Lakes-Upper

Mississippi River Board of State Sanitary Engineers as adopted by 401 KAR 6:200. The Recommended Standards for Water Works expressly state that fire hydrants shall not be connected to water mains which are not designed to carry fire flows.

Barkley Lake was requested by the Commission to document that the proposed conventional fire hydrant was capable of providing fire protection. The Engineer responded that since Barkley Lake cannot meet the fire flow requirements, the conventional fire hydrant would be deleted and a flush hydrant would be installed.

The Commission in good conscience cannot approve the installation of conventional fire hydrants which would be contrary to state regulations and accepted engineering standards. Furthermore, the installation of conventional fire hydrants may mislead Barkley Lake's customers into believing that the water distribution system is capable of providing adequate and reliable volumes of water for fire protection purposes. The Commission accepts Barkley Lake's proposal to substitute a flush hydrant for the proposed conventional fire hydrant.

#### UNACCOUNTED-FOR WATER LEVEL

The Commission over approximately the last 10 years, has both recommended and ordered Barkley Lake to reduce its unaccounted-for water level to 15 percent or less. Based on 1987 data, Barkley Lake's unaccounted-for water level is still averaging 30 percent. This unaccounted-for water has, in part, necessitated Barkley Lake's current expansion of its water treatment facilities.

As stated in the original Staff Report, the Staff would base its recommendation concerning the allowable water production

expenses on Barkley Lake's response to the Commission's November 12, 1987 Information Request. A review of Barkley Lake's response indicates that Barkley Lake has taken some action to reduce its unaccounted-for water level, but the level has not been significantly reduced. Lacking any other activity or economic documentation, the Commission is of the opinion that Barkley Lake's water production expenses should be based on a 15 percent unaccounted-for water level.

Accordingly, Staff has amended its report to reduce water production expenses to a level reflecting only 15 percent line loss. Pumping Expense and Water Treatment Expense have been reduced by \$19,658 and \$7,341, respectively. As a result, Income Available for Debt Service has been increased to a level of \$37,415. Calculations supporting these adjustments are set forth in Appendix B of this Order.

#### REVENUE REQUIREMENT

Staff recommended in its report that Barkley Lake be granted its requested increase of \$141,257 which would provide Barkley Lake with a DSC of .66X and a net cash flow of \$58,665. On November 13, 1987, Barkley Lake filed a revised rate study wherein it proposed to increase its rates by an additional amount of \$70,778 annually. This revised rate study was inadvertently omitted from the staff report. Based on the aforementioned adjustments made to amend the report and on an average annual debt service requirement of \$229,062, Barkley Lake's proposed rates

would generate a DSC of 1.09X<sup>1</sup> and a net cash flow of \$156,442.<sup>2</sup> Staff maintains that the rates requested on November 13, 1987 should be granted and that the cash flow generated by the proposed rates is sufficient to meet Barkley Lake's actual debt service requirement.

After careful review of the recommendations made by Staff, the Commission is of the opinion that Barkley Lake will have adequate cash flow to meet its obligations and provide for future equity growth. Therefore, the Commission affirms the Staff's adjusted recommended annual increase of \$212,035.

#### RATE DESIGN

In the instant case, Barkley Lake did not propose to change the rate structure now in effect. The Staff recommended in its report that in the absence of a cost of service study, it would not be in the best interest of Barkley Lake nor the public to initiate a new rate design.

Insofar that the Staff has recommended that a cost of service study is not warranted in this case, the Commission, however, places Barkley Lake on notice that a cost of service study will be required in its next rate proceeding.

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<sup>1</sup>  $(37,415 + 212,035) \div 229,062 = 1.09X$

<sup>2</sup>

Adjusted Net Income	\$ 37,415
Add: Proposed Revenue Increase	212,035
Depreciation	127,224
Less: 1988 Principal & Interest	<u>220,232</u>
Net Cash Flow	<u>\$156,442</u>

Based on the evidence of record, the Commission has determined that the rate increase granted herein should be spread to the existing rate structure so that the percentage of revenue from general customers remains the same as established in prior cases.

#### FINDINGS AND ORDERS

The Commission, after consideration of the evidence of record, and being advised, is of the opinion and finds that:

1. With the appropriate monitoring of service system-wide, and the substitution of a flush hydrant for the conventional fire hydrant, public convenience and necessity require the construction proposed in Barkley Lake's application. A certificate of public convenience and necessity should be granted.

2. The proposed construction consists of expansion and improvement of the water treatment plant, approximately 13.6 miles of 8- and 4-inch diameter pipelines, and related appurtenances. The low bids totaled \$1,396,455 which will require about \$1,999,200 after allowances are made for fees, contingencies, and other indirect costs.

3. Barkley Lake should monitor the adequacy of the expanded water distribution system after construction. If the level of service is inadequate or declining, or the pressure to any customer is outside the requirements of 807 KAR 5:066, Section 6(1), Barkley Lake should take immediate action to maintain the level of service in conformance with the regulations of the Commission.

4. Any deviations from the construction herein approved which could adversely affect service to any customer should be done only with the prior approval of the Commission.

5. Barkley Lake should obtain approval from the Commission prior to performing any additional construction not expressly certificated by this Order.

6. Barkley Lake should furnish proof of the total cost of this project including the cost of construction and all other capitalized costs (engineering, legal, administrative, etc.) within 60 days of the date that construction is substantially completed. Said construction costs should be classified into appropriate plant accounts in accordance with the Uniform System of Accounts for Water Utilities prescribed by the Commission.

7. Barkley Lake's contract with its Engineer should require the provision of full-time resident inspection under the general supervision of a professional engineer with a Kentucky registration in civil or mechanical engineering, to ensure that the construction work is done in accordance with the contract drawings and specifications and in conformance with the best practices of the construction trades involved in the project.

8. Barkley Lake should require the Engineer to furnish within 60 days of the date of substantial completion of this construction a copy of the "as-built" drawings and a signed statement that the construction has been satisfactorily completed in accordance with the contract plans and specifications.

9. The financing plan proposed by Barkley Lake is for lawful objects within its corporate purpose, is necessary and

appropriate for and consistent with the proper performance of its service to the public and will not impair its ability to perform these services. The financing plan is reasonably necessary and appropriate for such purposes and should, therefore, be approved.

10. If under FmHA loan conditions, Barkley Lake is notified and granted an option to accept a lower interest rate on the date of closing, Barkley Lake should file the following with the Commission within 30 days of the date of closing: (1) the FmHA notification of the lower interest rate and all correspondence from and to FmHA concerning this notification; (2) a statement of the interest rate accepted from FmHA; (3) amended pages to its bond resolution and an amended amortization schedule based on the different interest rate if a different rate is accepted; and (4) full documentation of why the lower rate was not accepted showing an analysis of the higher costs associated with the loan over the loan's repayment period in the event the option to accept the lower rate is not taken by Barkley Lake.

11. The rates in Appendix A are the fair, just, and reasonable rates to be charged by Barkley Lake for service rendered on and after the date of this Order.

12. Within 30 days of the date of this Order Barkley Lake should file with the Commission its revised tariff sheets setting out the rates approved herein.

IT IS THEREFORE ORDERED that:

1. Barkley Lake be and it hereby is granted a certificate of public convenience and necessity to proceed with the proposed



construction project as set forth in the drawings and specifications of record herein on the condition that service levels be monitored, corrective action taken in accordance with Finding 1 and Finding 3 of this Order, and that a flush hydrant be substituted for the proposed conventional fire hydrant.

2. Barkley Lake's financing plan consisting of an FmHA loan of \$1,973,000 and \$26,200 in contributions from applicants for service be and it hereby is approved.

3. The rates in Appendix A are the fair, just, and reasonable rates to be charged by Barkley Lake for service rendered on and after the date of this Order.

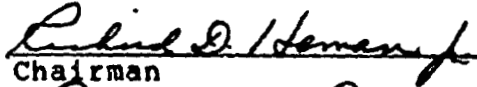
4. Within 30 days of the date of this Order Barkley Lake should file with the Commission its revised tariff sheets setting out the rates approved herein.

5. Barkley Lake shall comply with all matters set out in Findings 3 through 8 and Finding 10 as if the same were individually so ordered.

Nothing contained herein shall be deemed a warranty of the Commonwealth of Kentucky, or any agency thereof, of the financing herein authorized.

Done at Frankfort, Kentucky, this 27th day of May, 1988.

PUBLIC SERVICE COMMISSION

  
Chairman

  
Vice Chairman

  
Commissioner

ATTEST:

\_\_\_\_\_  
Executive Director

## APPENDIX A

### APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN CASE NO. 10046 DATED May 27, 1988

The following rates and charges are prescribed for the customers in the area served by Barkley Lake Water District. All other rates and charges not specifically mentioned herein shall remain the same as those in effect under authority of this Commission prior to the effective date of this Order.

#### RATES: Monthly

##### 5/8 Inch Connection

First	2,000 gallons	\$10.65 Minimum Bill
Next	3,000 gallons	2.85 per 1,000 gallons
Next	5,000 gallons	2.55 per 1,000 gallons
Next	40,000 gallons	2.25 per 1,000 gallons
Next	50,000 gallons	1.95 per 1,000 gallons
Next	400,000 gallons	1.88 per 1,000 gallons
Over	500,000 gallons	1.80 per 1,000 gallons

##### 3/4 Inch Connection

First	3,000 gallons	\$13.50 Minimum Bill
Next	2,000 gallons	2.85 per 1,000 gallons
Next	5,000 gallons	2.55 per 1,000 gallons
Next	40,000 gallons	2.25 per 1,000 gallons
Next	50,000 gallons	1.95 per 1,000 gallons
Next	400,000 gallons	1.88 per 1,000 gallons
Over	500,000 gallons	1.80 per 1,000 gallons

##### 1 Inch Connection

First	5,000 gallons	\$19.20 Minimum Bill
Next	5,000 gallons	2.55 per 1,000 gallons
Next	40,000 gallons	2.25 per 1,000 gallons
Next	50,000 gallons	1.95 per 1,000 gallons
Next	400,000 gallons	1.88 per 1,000 gallons
Over	500,000 gallons	1.80 per 1,000 gallons

### 1 1/2 Inch Connection

First 10,000 gallons  
Next 40,000 gallons  
Next 50,000 gallons  
Next 400,000 gallons  
Over 500,000 gallons

\$31.95 Minimum Bill  
2.25 per 1,000 gallons  
1.95 per 1,000 gallons  
1.88 per 1,000 gallons  
1.80 per 1,000 gallons

### 2 Inch Connection

First 20,000 gallons  
Next 30,000 gallons  
Next 50,000 gallons  
Next 400,000 gallons  
Over 500,000 gallons

\$54.45 Minimum Bill  
2.25 per 1,000 gallons  
1.95 per 1,000 gallons  
1.88 per 1,000 gallons  
1.80 per 1,000 gallons

### 3 Inch Connection

First 50,000 gallons  
Next 50,000 gallons  
Next 400,000 gallons  
Over 500,000 gallons

\$121.95 Minimum Bill  
1.95 per 1,000 gallons  
1.88 per 1,000 gallons  
1.80 per 1,000 gallons

### 4 Inch Connection

First 100,000 gallons  
Next 400,000 gallons  
Over 500,000 gallons

\$219.45 Minimum Bill  
1.88 per 1,000 gallons  
1.80 per 1,000 gallons

There is a \$2.40 per customer surcharge for the Eastern portion of the District.

# APPENDIX B

## Calculation of Test Year Cost per Gallon

	Test Year Adjusted Expense	Test Year Total Gallons Produced*	Test Year Cost Per Gallon
Pumping Expense	\$ 92,782 ÷	304,869,000	\$ .0003
Water Treatment Expense	31,716 ÷	304,869,000	.0001
Total	<u>\$ 124,498 ÷</u>	304,869,000	<u>\$ .0004</u>

## Calculation of Gallons Produced @ 15% Line Loss

Test Year - Total Gallons Sold*	182,018,600
Test Year - Total Gallons Used*	25,165,000
	<u>207,183,600</u>
Adjst. to Allow for 15% Line Loss	÷ .85
Total Gallons Required with 15% Line Loss	<u>243,745,412</u>

## Calculation of Allowed Expense

	Cost Per Gallon		Gallons Required	Allowed Expense
Pumping Expense	\$ .0003	X	243,745,412	\$ 73,124
Water Treatment Expense	.0001	X	243,745,412	24,375
Total	<u>\$ .0004</u>	X	243,745,412	<u>\$ 97,499</u>

## Calculation of Recommended Decrease

	Test Year Adjusted Expense	Allowed Expense	Recommended Decrease
Pumping Expense	\$ 92,782	\$ 73,124	\$ 19,658
Water Treatment Expense	31,716	24,375	7,341
Total	<u>\$ 124,498</u>	<u>\$ 97,499</u>	<u>\$ 26,999</u>

\* Based on Information submitted as Figure 6 in Barkley's January 22, 1988 Filing.

Calculation of Income Available for Debt Service

	Test Year Adjusted Per Staff Report	Recommended Adjustments	Adjusted Test Year
Operating Revenues	\$ 430,452	\$ -0-	\$ 430,452
Operating Expenses	433,474	<26,999>	406,475
Operating Income	\$ <3,022>	\$ 26,999	\$ 23,977
Other Income	22,620	-0-	22,620
Other Expenses	9,182	-0-	9,182
Income Available for Debt Service	<u>\$ 10,416</u>	<u>\$ 26,999</u>	<u>\$ 37,415</u>